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ABSTRACT

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MOTIVATIONAL ASPECTS OF THE LITERACY PROBLEM

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Abstract

This paper deals with the question of academic motivation. It argues that perseverance at learning is not a function simply of inheritance, early socialization, or current cultural conditions, but rather of an interaction of these factors with key aspects of the educational environment. Two distinct conceptions of motivation are outlined: motivation in a selective model of education and motivation in an adaptive model. In the main body of the paper four factors are proposed to account for perseverance in learning: aspiration, expectations, external rewards, and intrinsic reinforcement. Each of these is described and their function in the design of educational programs for children and functionally illiterate adults is discussed. Reading is used as the example in these discussions. In the final section, the problem of motivating teachers to adopt new educational practices is analyzed in terms of the above mentioned factors. This paper will be of interest to teachers, school supervisors, educational researchers and curriculum designers, and others interested in the psychology of instruction.

MOTIVATIONAL ASPECTS OF THE LITERACY PROBLEM

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It is widely assumed that the "disadvantaged," by virtue of their early and continuing family experiences, are not adequately "motivated" for academic achievement (e.g., Katz, 1967) and that this failure of motivation on the part of children and their families accounts in large part for the existence of the literacy problem in this country. That there is a problem surrounding literacy is abundantly evident. Large segments of our population--usually the poor and racial minorities--are failing to learn to read and write at a level adequate to the demands of our society. Black and other minority children fall farther behind in basic academic performance with succeeding years in school. Many adults, including some who hold high school diplomas, are unable to meet the minimal literacy demands of any but the least skilled jobs. In every major city there are schools in which average scores routinely fall below both local and national norms on any test of academic performance they choose to administer. In what sense, however, does all of this evidence argue for the existence of motivational problems on the part of certain social groups?

Conceptions of Motivation

Motivation in a Selective Model of Education. We would like to suggest that the evidence for a failure of academic motivation in the disadvantaged is essentially the same evidence that in times of different

social persuasion has been used to argue that the disadvantaged were less "intelligent" than other segments of the population, and that concepts of motivational deficit derive from the same educational and social assumptions that underlie concepts of intellectual deficit. The "hard" evidence (on both kinds of deficit) is that within the educational system as now constituted certain groups of children fail to learn. Traditionally, our response has been to accept the educational system as given, and then to seek "explanatory factors" to account for the discrepancies in learning outcomes. Since the educational treatment was assumed to be more or less invariant, it was inevitable that the relevant explanatory factors would be sought outside the educational system--i.e., in differences between children.

This statement requires some explanation. There are, of course, differences from school to school and from classroom to classroom in the resources brought to bear on education and in the specific objectives of instruction. There are also honest attempts on the part of many schools and teachers to make adjustments to individual differences among students. Nevertheless, in all but a few instances, our educational system has worked on the assumption that there is some fixed body of material to be "covered" in a given period of time, and that some students would learn it and some would not. "Equality of educational opportunity," as Coleman (1968) has pointed out, has been judged according to whether students had <u>access</u> to the same educational experiences, not according to equivalence of <u>results</u>.

Under these assumptions, the educational system has operated in a very real sense as a mechanism of social selection--accepting everyone at the outset, but according the intellectual and social benefits of educational success only to some. The selective aspects of the system are

relatively masked in America, as compared, say, with certain European educational systems: but they are real enough even here. They continue to be maintained, even in the face of subtly changing social and legal definitions of equality (Coleman, 1968) by normative achievement testing programs which rank students in relation to one another, thus implicitly selecting some students as "better educated" than others.

Tests of "intelligence" were originally designed to predict success or failure within a selective educational system (Hunt, 1961; Glaser, 1972). This means that the test designers deliberately sought items for inclusion in the tests that would maximize differences between successful and unsuccessful students. IQ tests, validated within a selective educational model, have so dominated our thinking about intelligence that in all of the discussion generated over Jensen's (1969) thesis concerning the heritability of intelligence hardly anyone has challenged his assumption that intelligence is adequately defined by what is measured in IQ tests.

A brief scanning of research on academic motivation suggests that a similar concern with maximizing differences between successful and unsuccessful students has dominated our view of the issue. Katz (1967), reviewing research on the socialization of academic motivation in minority group children, mentions the possibility that racial differences in scholastic achievement may be due to failure of the schools to teach rather than of children to be motivated to learn. However, he then directs his attention almost entirely to research (his own or others') that seeks racial differences in achievement motivation, self-evaluation, response to tangible and symbolic rewards, and other characteristics that are presumably socialized early in a child's development and remain relatively stable throughout his lifetime. The attempt, in other words, is to find dimensions that will discriminate as sharply as possible between

racial groups--since it is already known that these groups perform differentially in school.

Underlying research of this kind is a conception of motivation as a personality trait--i.e., a behavioral tendency that is stable across situations. This conception, in turn, leads to attributing the causes of success or failure to characteristics of the individual rather than of the environment (cf. Jones & Nisbett, 1971). In education, in particular, this kind of attribution often is used as an excuse for failure of the institution or its practices (Clark, 1965), rather than as a stimulant to reform. For this reason, most traditional research on motivation offers little guidance for the development of educational intervention programs.

Motivation in an Adaptive Model of Education. What happens when we change from a selective model of education to an "adaptive" one--a model in which it is considered the job of the educator or educational agency to adapt its practices to the requirements of the students, rather than to select those students who can easily adapt themselves to the system? In an adaptive model of the kind we have in mind, learning goals would be set for, by, or with students, and a contract made--implicitly or explicitly--to meet those goals. Since, presumably, students would differ widely upon entering the system, the school would be required to provide a number of alternative instructional courses in order to fulfill the contract with every student. A minimally adaptive system would be one in which all students are working toward the same goals and in which the same sequence of specific learning objectives is followed by all students; but in which each student is permitted to either enter the sequence at a point suited to his own level of development, and to proceed through the sequence at a rate determined by his mastery of successive levels in the sequence. There is no fixed time within which a task must be learned, rather, each student has as much (or as little)

time as he needs. More extensive adaptation can be provided by providing alternative sequences or instructional strategies toward a given set of goals; or, further, by tailoring the goals themselves to the interests, capacities, and aspirations of the learner.

Carroll (1963) has suggested five variables in terms of which it should be possible to account for the rate at which individuals learn in an adaptive system. These are: (1) aptitude (the amount of time needed to learn); (2) ability (to understand instruction); (3) quality of instruction; (4) time allowed for learning; and (5) perseverance (amount of time the learner is willing to spend in learning). The last of these variables, perseverance at learning, constitutes a reasonable operational definition of motivation; such a definition is consonant with findings that high achievement of motivation is generally associated with persistence at achievement related tasks (Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971). Applying this definition, if as much time as is needed is allowed, and if one assumes an individual's aptitude and ability for any given task at a given point in time to be relatively fixed, then the two key variables determining learning are quality of instruction and learner's perseverance, or "motivation."

It will be readily agreed that educators are responsible for the quality of instruction. That schools and other educational agencies can take responsibility for the degree of perseverance at learning exhibited by their students is perhaps less obvious. We shall argue, nevertheless, that perseverance at learning is not a function simply of inheritance, early socialization, or current cultural conditions, but rather of an interaction of these factors with key aspects of the educational environment. Since we are here concerned with the improvement of educational practice, we shall focus our attention on conditions over which educators have, or can gain, control.

Motivation for Reading

There are four factors in terms of which we believe it is possible to account for perseverance in learning. These are: (1) aspiration, (2) expectation, (3) external rewards, and (4) intrinsic reinforcement.[1] In the following sections we shall describe each of these and consider how they may function in the design of an educational program for children and for functionally illiterate older people. For purposes of this analysis, we wish to consider as "children" only youngsters who are being taught reading for the first time, at an age (up to approximately seven) considered standard in our society. Older children who are in remedial programs, or who for some reason have not been taught at the normal age, will probably have motivational characteristics more similar to adults than to children a few years younger. This is because they will probably perceive themselves as "failing" in a basic ability expected by society. In the final section of the paper, we shall apply the four motivational factors to an analysis of the problem of motivating teachers to adopt new educational practices.

Aspiration: The Desire to Read. Reading is a normative behavior in American life. Everyone is expected to be able to read. The aversive consequences of not reading are great. Illiteracy is a serious handicap, not only in the job market, but in numerous aspects of personal

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[1] It should be noted that we use the term "aspiration" in a somewhat different sense than has been traditional within social psychology (see as the classic, Lewin, Dembo, Festinger, & Sears, 1944). Our distinction between aspiration and expectation is roughly equivalent to Lewin et al.'s distinction between "ideal goals" and "action goals." However, it is probably best to avoid attempting to draw too close a comparison. Our own terms are defined in the course of the discussion.

life. We assume, therefore, that there are few if any persons who would not prefer literacy to relative illiteracy. Although it is more anecdotal than quantitative, it is worth mentioning some of the kinds of evidence that support our assumption.

Young children, even from the most "disadvantaged" urban homes, usually come to first grade expecting and wanting to be taught to read. They ask explicitly for instruction in reading and respond especially quickly to activities that "look like" reading, such as learning the alphabet. The children want to "know how to read," although they may have little specific experience of what knowing how to read actually entails. These five- or six-year-olds have learned from their parents and siblings, and indeed from their entire cultural experience, that reading is valuable. They have learned this even though many of their parents and older siblings and neighbors have never learned to read adequately. This alone suggests the degree of aspiration for literacy in communities with high rates of functional illiteracy.

The extent to which reading is valued even in the poorest cultures is further suggested by the extent to which functionally illiterate adults will go to hide their difficulties. Early in the development of the Job Corps basic literacy program, designers of the program discovered the elaborate (and highly intelligent) procedures which many young men used to "cheat" on the literacy placement tests, in order not to reveal their inadequacies. At Warrendale, a Youth Development Center in Pennsylvania that has developed a highly adaptive educational program in which boys "contract" for the academic work they will do, instructors report that the biggest step in dealing with the literacy problem is to get the boy to admit that he cannot read and make the first contract. Once beyond this point, progress is usually relatively quick.

What do facts like these imply for the design of educational programs for literacy? For young children, they offer us enormous encouragement. They suggest that the school's main job is to meet the child's desire to be taught to read--by teaching him and making his learning visible to himself and to his family.

Since, despite their desire to learn to read, many children enter first grade without having acquired the necessary prerequisite behaviors for learning, the commitment to teaching will usually imply the use of strong preparatory programs, with a heavy academic component. A motivationally adaptive educational program cannot afford to wait for "readiness" to develop. It must teach whatever readiness skills are truly prerequisite, and then go ahead and teach reading, using whatever materials and methods seem to do the job best.

The requirement of visibility means that the materials and methods used in teaching must be clearly interpretable as "real reading" by the children and the community. Long periods of preparatory linguistic, visual, or auditory training, for example, however well-founded from a pedagogic point of view, may flounder because they fail to make contact with the child's and the community's aspirations. Instead, readiness activities should involve work with letters as early as possible, and children should read early in "books," even if the books have only one word per page! The books and other materials with which children work should be available to take home as each successive level is mastered. The terminal behavior of reading, in other words, needs to be approximated as early as possible, and the developing skills of children need to be shown in concrete form to their families.

For adults, or for children who have already experienced failure in the first try at learning to read, the motivational problem surrounding

aspiration is more complicated. The key step is to get the individual to admit that he has something to learn. There are several conditions that seem likely to contribute to a social-learning environment that will make this admission least uncomfortable and most likely to occur.

First, anonymity, or at least privacy during the instructional sessions, may help. It is not uncommon to find adults traveling across a city to a literacy class, bypassing one in their own neighborhood where attendance would be an admission to friends and neighbors that they could not read. And having admitted the need for help by entering a program, adults often withdraw from class situations in which they must expose all the specifics of their inadequacy to public view. While anonymity may be outside most educational agencies' powers to arrange, privacy is not. Provision for privacy with respect to what one works on and where should do much to maintain participation in adult literacy programs. This makes an individualized program, with provision for tutorial instruction where necessary, close to a requirement in an adult literacy undertaking, for motivational as well as cognitive reasons.

A second need in adult programs is for some parity of relationship between instructor and student, with this need becoming greater the older the student. The traditional school authority relationship has failed for the functional illiterate. Thus, the traditional "teacher in front of the class" is unlikely to work in adult or adolescent programs. Instead, some sense of "colleagueship" between instructor and student probably needs to be developed. In the two adult and adolescent programs we know best (Warrendale and the Bidwell Cultural and Training Center in Pittsburgh),[2]

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[2]The comments on Warrendale and Bidwell refer to programs in effect there at the time this paper was initially written (1970). We have not been in continuous contact with these institutions since that time and a change in leadership may have resulted in changes in practice of which we are unaware.

the physical arrangement is informal and not reminiscent of the schoolroom. Furthermore, there is considerable real power given to the students--not only to select their own learning activities and manage their own time, but also to affect certain basic organizational features of the institution. Ideally, the teacher's authority should derive from the students' recognition of his competence as a teacher of something the student wants to learn, rather than from formal authority relationships. Just how to manage this and how to balance the student's need for autonomy with the teacher's need to instruct and set tasks are questions that need considerably more investigation.

A third factor that may increase the likelihood of enrolling and remaining in an adult literacy program is the visibility of "models"--other individuals who have admitted the need for literacy education and who are engaging in it. The existence of such models may function both to lower the perceived likelihood of unpleasant consequences for admitting the need of education and to demonstrate that literacy goals are realizable. As the models advance through the program and publicly demonstrate increasing competence, they may provide a form of vicarious positive reinforcement, which can function to increase the likelihood of the observer's engaging in the modeled behavior (Bandura, 1971). The effectiveness of such models of success has been demonstrated at the Bidwell Center where enrollment increased sharply after the first 12 trainees passed the GED exam and were treated to an expensive dinner by key members of the Center's Board.

Finally, responsibility for another's education may serve to promote the desire to pursue one's own. Probably everyone who has worked with disadvantaged youngsters have encountered cases in which a parent returned to night school as his child developed increasing reading skill,

in order to "keep up" or "be able to help." We have already noted that the culture of the poor--at least of the urban Black--values literacy, and that this valuation is commonly expressed in great aspirations for its children. Educational programs that systematically capitalize on this sense of responsibility to the young child have only begun to be explored (e.g., Melaragno & Newmark, 1969; Ellson, 1970; Ellson, Barber, Engle, & Kampwerth, 1965). By making an older child or adult responsible for tutoring a younger one, it may be possible not only to give the younger one valuable individual attention, but also to provide the older person with an excuse for engaging in special study activities himself in order to "prepare for his job." These considerations suggest that cross-age tutoring programs should examine the effects on tutors as well as on tutees.

Expectation: Goal-Setting. We have noted our belief that children from all kinds of homes enter school with high aspirations concerning reading, and that these aspirations derive from their families and communities. Yet it has been widely hypothesized that disadvantaged children have weaker "self-concepts," lower "need for achievement," and generally more depressed expectations of success than their more advantaged peers. In other words, a short time after entering school, children from poor and minority homes no longer expect to do well in school. Nor do their parents and teachers, whatever their aspirations concerning reading, have any great expectations for the children's success.

It is our own observation, shared by colleagues working in similar educational environments, that many parents who desperately want their children to do well nevertheless do not expect them to. This appears to be part of a general attitude on the part of people from relatively powerless groups in society that they cannot significantly control their environments and, therefore, succeed through their own efforts (cf. Lefcourt, 1966). This failure of expectancy is most often demon-

strated in withdrawal and apparent apathy with respect to school and school achievement. Occasionally, however, most often when an intensive intervention program has dramatically raised a parent's hope for his children and thus his functional expectations for them, it is expressed directly.

Goldman (1970), for example, trained a small group of mothers in the use of positive reinforcement (praise) while teaching and playing with their own children. In interviews at the conclusion of the three-month training program, all of the mothers expressed the expectation that they could now work effectively with their children and that the children would, therefore, probably do much better in school than they themselves had or better than older siblings had. Parents of children in our developmental program (cf. Resnick, Wang, & Rosner, in press) sometimes tell us that their older children's experiences in school had led them to give up hope for their children's learning, but that the progress of a younger child in the program has raised their expectations.

Teachers' expectations of learning in the disadvantaged are also characteristically low even as the child enters school (Rosenthal & Jacobson, 1968). These expectations probably derive from a combination of "folklore," subtle forms of class and race bias, and teachers' own cumulating experiences in which, under the existing educational system and, given the training and materials available to them, they have been unsuccessful in teaching such children. Rosenthal and Jacobson, in the studies described in Pygmalion in the Classroom, have attempted to show that teachers' initial expectations for their students can significantly affect actual achievement. Although the Pygmalion studies have been severely criticized on methodological grounds (Thorndike, 1968; Elashoff & Snow, 1971), the hypothesis of self-fulfilling

prophecies in the area of academic achievement seems sufficiently compelling to warrant further investigation and analysis (cf. Finn, 1972).

Assuming for the moment that the effects of teacher expectation on learning are real, it is appropriate to ask how expectations might function to produce differences in performance. It seems likely that teacher expectation affects ultimate performance both at the point of setting tasks, and at the point of evaluating performance. With respect to task setting, differential expectations, particularly where some measure of individualization of learning tasks is possible, probably lead to differential assignment of tasks. A child who is not expected to learn easily or well may be assigned fewer tasks, or repetitive tasks at the same level of difficulty. If he has trouble with a task, the teacher may move him back to an easier task without carefully determining the source of difficulty or trying to help him solve the problem. He will not, in other words, be regularly required to "extend" himself. Where the child's and parents' expectations are similarly low, the teacher's failure to demand high performance will be compounded by the child's withdrawal from serious efforts.

The child for whom there are high expectations, by contrast, will be asked to do more and harder work and will not be permitted to "give up." At the point of evaluation, as tasks or subtasks are completed, it seems likely that children for whom there are high expectations will be more warmly praised and more publicly recognized than children for whom there are low expectations. Sheer amount of attention for appropriate behavior may also be greater.

It is essential to note that, however important the effects of initial expectation, the ultimate effect on the child will result from a cumulative cycle in which the actual performance confirms and therefore

strengthens both the teacher's and the child's initial perception. The child for whom expectations are low often actually does perform badly, in smaller and larger ways. This is why small differences in expectation can potentially have so great an effect. It is also one of the reasons why well-controlled research on the question is so difficult and why it is likely to be a long time before the effects of task-setting, evaluation, attention, and other more subtle variables can be isolated.

With respect to the design and staffing of educational programs, the potential effects of expectations on achievement point to the need for selecting and educating teachers in ways that will lead to changed initial expectations. This may be less a matter of college courses or other formalized training than of designing institutions and social support systems within the schools that will mitigate against the development and maintenance of negative expectations. With respect to parents' expectations for their children, and children's own self-expectations, the job seems to us to be primarily one of visible demonstration of learning and of convincing learners that their own efforts can result in real achievement. Parent involvement in the educational process is vital if changes in expectation are to be effected. Yet the parents whose expectations are lowest are, as we have noted, the ones most likely to have withdrawn from active contact with the school. Thus, special efforts at initiating and sustaining parental contact will be needed.

External Reinforcers for Learning to Read. Our initial section discussed the motivation deriving from the desire to be able to read--that is, be an already accomplished reader. But learning to read is a long process, and many of the specific tasks involved may appear unrelated to reading itself, particularly if the individual's entering repertoire is weak and a period of preparatory instruction is required.

Thus, even assuming that the basic desire to read exists, and even if expectations of success are maintained, other kinds of rewards, coming from the teacher and the school rather than from the student himself, may be required to initiate and maintain the actual process of learning.

We mean by "external rewards" any rewards for learning or performance that are offered to the learner by some outside agent (teacher, peer, parent) rather than deriving either from the student's striving for some distant goal (such as literacy) or from intrinsic pleasure in performing the task at hand. Examples of external rewards range from tangible reinforcers (perhaps mediated by a token or point system) to praise from parent or teacher or recognition by peers. Defined in this broad way, it is clear that external reinforcers function in virtually every social situation. The question for educational design is, thus, not whether to use external reinforcers, but which ones to use, and how to use them. Let us consider, therefore, some alternative external reinforcement systems, their characteristics, and their effects on learning and other characteristics of the school environment.

(1) Token economies or point systems. Systems in which learners earn points or "tokens" for the work they do in an academic setting have been used with groups ranging from normal preschoolers through institutionalized delinquents (see O'Leary & Drabman, 1971; Kazdin & Bootzin, 1972; Staats, 1973). Although details of the systems used have varied, token economy experiments have generally shared certain key features. First, there is usually a sequentially arranged curriculum (often no more than an ordering of the lessons in standard school textbooks). Second, there are standards of achievement for passage from one level to the next (these standards being intrinsic to the curriculum itself rather than to externally normed achievement tests). Third, there is the opportunity to earn points or tokens for attending to one's work,

for completing work, or for passing tests that measure performance on the established objectives. Finally, points or tokens accumulated can be traded for privileges, consumable items, or other "goods" in the equivalent of a "store." In most cases, there is a mix of relatively immediate exchanges (each evening, or the end of the work hour, for example) and relatively delayed exchanges (a monthly trip, an expensive catalogue item, for example).

A variant of the token economy is the reinforcement "menu" or contingency contract (Homme, Csanyi, Gonzales, & Rechs, 1969). Here, immediate access to desirable activities is made contingent on completing a unit of work. Such systems have worked rather well in maintaining work behavior in elementary school classrooms. They are appealing, but are not always easy to organize. In addition, since access to reinforcement is tied to task completion and there are no systematic mediators, such as tokens, the teacher is provided few tools with which to shape and maintain perseverance in children who have difficulty in simply maintaining attention to a learning task through the time needed to complete it.

Projects using token or contract reinforcement in conjunction with individualized instruction have frequently been able to produce marked gains in reading performance after only a few months of participation in the program. These instances indicate the potential power of systematic programs of tangible reinforcement when skillfully and adaptively applied. However, it should be noted that the use of even very powerful tangible reinforcers does not free educational designers from concern with establishing conditions in which aspirations to literacy can be expressed (particularly in the case of adults) and which expectations of learning are carefully nurtured. Rather, it seems appropriate to view the use of such reinforcement systems as a means of initially involving the student. As the student's expectations of success develop

and as his increasing competence brings him into contact with intrinsic intellectual pleasures involved in reading and with social and perhaps (for adults) monetary reinforcers, the need for token economies and other incentive systems can be expected to diminish.

Token economies are relatively expensive to establish and operate. The expense lies only partially in the cost of the tangible rewards themselves. Other costs are social: the need to convince teachers that rewarding learning is not "bribery" and training them in the use of the tokens to "shape" new behaviors rather than simply to reinforce already adequate behaviors. Still more important, we think, are the dangers inherent in a situation in which one group (teachers) seeks to establish control over another group (students) using resources available only to the former group. Social reinforcement systems avoid some of these problems.

(2) Systematic social reinforcement. The effect of systematic social reinforcement (praise and contingent attention) in the classroom has been demonstrated in a number of studies (see Glaser & Resnick, 1972). Most studies of this kind have concentrated on diminishing disruptive behavior and/or increasing overt "study behavior." While quiet classrooms and much "on task" behavior are undoubtedly reinforcing to teachers, it remains to be demonstrated that these characteristics of classrooms are directly associated with increases in learning.

Social reinforcement has a number of advantages over token or other forms of tangible reinforcement. First, it is cheap. It uses exactly the same resources as the teacher has used all along, but distributes them more "rationally" and intentionally. Second, it is a step closer to the "natural" environment--that is to an environment in which reinforcers are not systematically programmed. This is an advantage

both to teachers who are troubled by the notion of "paying for" a child's learning, and to children, who move somewhat closer to being able to operate in the natural environment. Finally, social reinforcement is a mutual process, with children and teachers dispensing it with more nearly equal power than is the case with tangible reinforcers.

Social reinforcement, like tangible reinforcement, can be distributed on a variety of schedules. It is our observation that many children, particularly from disadvantaged homes, enter school with relatively few "work skills"--that is, abilities to follow directions, follow through on a task, ask for help when needed in appropriate ways, etc. In addition, with little experience of success in academic matters, such children may need especially frequent reinforcement. It is essential that such children be met where they are. Their attentional and work behaviors must be shaped by direct reinforcement, either tangible or social. As the ability to complete longer and more complex tasks develops, the contingencies can be shifted to task completion. This shift represents a move closer to natural reinforcement conditions, for traditional teacher practices place heavy emphasis on accurate and timely completion of work.

We know of no studies of systematic social reinforcement with adult functional illiterates. It seems unlikely that social reinforcement from an instructor will function in the same way as it does with children, since the effect of social reinforcement depends upon perceived status and other relationships of the individuals involved (Blau, 1964). Nevertheless, for designers of adult literacy programs it is worth considering the social reinforcement resources of peers and families, and seeking ways of making prestige and recognition in the community become dependent upon progress in learning.

While it is important to consider the means by which systematic external reinforcers can be gradually eliminated, it is also important to recognize that both social and tangible reinforcers constitute a part of the "natural" environment for children and adults. Thus, there is no need to seek conditions in which parent and teacher praise is completely eliminated, in which no prestige accrues for literacy performance, or in which all tangible reinforcers (such as money) are removed. One of the characteristics of families and schools that are academically successful is that parents and teachers continue to demonstrate pleasure at children's learning, and that individuals look forward to the dignity and earning power of respected work. We must seek to make this the case for poor families and impoverished schools, as well.

Intrinsic Reinforcers for Learning to Read. The systematic use of external reinforcers for learning activities need not imply a disregard for the forms of reinforcement that are commonly termed "intrinsic"--either self-administered or built into the learning tasks themselves. In fact, it is useful to think of external reinforcement systems as establishing the conditions under which certain kinds of intrinsic reinforcement can become effective, particularly for individuals who have had little experience of academic success and who have reinforcement histories tending to produce devaluation of their own efforts. We shall consider two main categories of intrinsic reinforcers, with particular reference to the features of an educational program most likely to enhance their functioning among the disadvantaged.

(1) Self-evaluation and self-reinforcement. Bandura (1971) and others have recently stressed the role of self-administered reinforcement and punishment in controlling an individual's behavior in absence of, or in the intervals between, external reinforcements. Presumably,

self-reinforcement in the form of positive self-evaluation mediates access to the external reinforcers available in the individual's environment much as tokens mediate access to tangible reinforcers in a token incentive system. Katz (1967) suggests that lower class children, particularly Blacks, tend to evaluate their performances more negatively than middle class children. This would imply that lower class children's mediating reinforcement schedule is much "thinner" than that of middle class children. Further, individuals from relatively powerless groups in society typically tend to perceive less opportunity to control the environment and therefore to achieve goals through personal effort (see Lefcourt, 1966). For both of these reasons it would not be unexpected to find a lower level of perseverance among lower class children and adults, given equivalent difficulty of task and delay of external reinforcement.

It seems likely that one's evaluation of one's own learning will be closely tied to one's expectations for achievement and for control over learning. In the section on expectations for learning we spoke of the way in which repeated visible success might function to raise expectations of learning in students and in their parents. We would like to suggest now that, in addition to raising expectations, success can itself come to function as a self-mediated reinforcer of learning. This hypothesis is based on the assumption that people are reinforced by their "competence" (White, 1959). Behaviorally, it implies that people will keep doing things (1) that they are able to do well, (2) in which they can make clear judgments of their own competence, and (3) in which they attribute their success to their own abilities and efforts rather than to external factors such as luck (see de Charms, 1968; Rotter, 1966; Weiner et al., 1971).

This definition of success as a reinforcer of learning suggests three conditions that should be met by educational programs. First,

programs must be designed so that most individuals are successful at most tasks that they undertake. Second, there must be clear standards of success against which individuals can measure their own performance. Third, individuals must feel that they have met these standards through their own efforts and that their successes are real; warm praise for indifferent efforts and mediocre performance will quickly lose value.

Frequency of success can be best assured by offering an appropriately sequenced series of tasks, each developing the competence needed to succeed at learning the next. The steps must be small enough that a discernibly separate task is mastered frequently and, at the same time, large enough to be perceived as significant markers of effort and achievement. At the outset, social or other external reinforcement will probably need to be offered to each task mastered, both to maintain learning behavior before success itself becomes functional as a reinforcer and to provide "models" of appropriate self-reinforcement behavior. Forms of record-keeping such as individual graphs and progress charts, which offer visual evidence of progress through a sequence of tasks, can do much to enhance the effect of frequent mastery. To function as reinforcers, these records should be available to the students; where possible, they should be maintained by the student, who must then discriminate more sharply between the occasions when he is judged successful from those when he is not.

At first, as we have indicated, judgments of success or failure at a learning task will probably need to be largely external, provided by the teacher or perhaps another student. As experience builds, however, it should become possible for the student to take on much of the evaluative function himself. It is at this point that control over reinforcement is transferred to the student, and it becomes appropriate to speak of "self" or "intrinsic" reinforcement and, concomitantly, of internalized control.

Where the student is to be judge of his own performance, it is important that standards of success be as unambiguous as possible, at least at the outset. Two kinds of standards of success are possible. One, the most widely used in our current educational system, is one's standing in relation to others. This represents a "norm-referenced" standard of behavior and is embodied in our standardized aptitude and achievement tests. Motivationally, the difficulty with norm-referenced standards, whether the normative group is a single classroom, a school or community, or the entire nation as in standardized achievement tests, is that for someone to be ahead, someone else must always be behind. For this reason, we would advocate the use of "criterion-referenced" standards--that is, standards in which a particular performance goal is described in detail, and the student compares his performance with the described optimal performance (see Glaser, 1963). In such a system, everyone can be successful although there will be differences in the rates at which individuals meet successive performance standards. In addition, criterion-referenced tests provide a clearer description than do normed tests of the kinds of competence to be developed.

(2) Pleasure in reading. In an experimental after-school program for Black, intermediate-grade students who were significantly below grade level in reading (Wolf, Giles, & Hall, 1968), token reinforcement for completing math and reading assignments was temporarily dropped as part of a test of the tokens' effectiveness. Work rates dropped, but for at least some children they dropped markedly less in reading than in math. Here we have experimental evidence for the intrinsic pleasures of reading, even in a "remedial" population. For those with adequate reading skill, the pleasures of following a story or obtaining new information will often maintain reading activity for extended periods of time with no outside reinforcement at all. To what extent can pleasure in reading be used to maintain perseverance at acquiring reading skill?

In considering this question, it is necessary to distinguish between initial and later stages in learning to read. The initial stages of learning are necessarily primarily concerned with learning to recognize or decode words--to make the appropriate oral responses to written symbols. Whatever method of reading instruction is used, reading vocabulary at the outset is extremely limited. As a result it is difficult to write stories with much intrinsic interest that beginning students can read by themselves. This being the case, it seems most profitable at the early stages or reading to rely on other forms of motivation (including the intrinsic pleasures of success in decoding) and to use the most efficient teaching methods available in order to establish as extensive a reading vocabulary as quickly as possible.

At the same time, generous access to orally presented stories and other materials of high interest and quality can be used to maintain a general interest in reading and to provide some introduction to comprehension skills. In this regard, the use of audio recordings, keyed to printed stories that students can read along with, is worth considerable attention. In addition to making the readings available on a more individualized and frequent schedule than "live" readings permit, "reading along" can probably be effectively used to develop certain visual attention skills. Comprehension skills can be developed on the basis of these oral presentations, thus establishing the groundwork on which skills in comprehension of written texts can later be built. Finally, for adult students, recordings of texts may be the most practical means of maintaining privacy while still offering a wide variety of listening/reading material. The possibilities for the kinds of texts that might be available in an adult "listening library" are, at least theoretically, as wide as the printed material available in our society. Even the daily newspaper might be recorded each morning by students at a more advanced level in the program to be listened to by beginners.

As word attack skills and reading vocabulary expand, and the student can read more and more on his own, the possibilities for readable texts of high interest built into the instructional program itself increase. It was in recognition of this possibility that various "reading laboratory" programs have been developed, and also that reading series with "urban content," expressly intended for minority group and other disadvantaged city children, have been published. We are unaware, however, of a varied set of selected readings with an adequate range of content specifically suited to poor and minority group children. Perhaps this need can best be filled by making use of the wide variety of full length "trade books" for children already on the market. A reading program built on such books could offer far more variety of format and content than any set of prepared selections, and would also probably do more to engage children in extended reading efforts. Comprehension and related skills might be built on the basis of these texts, as might middle and advanced level word analysis skills. In this respect, approaches initially developed for adults, as in the Job Corps reading program, might well be imitated in programs for younger children.

Motivating Teachers to Adapt to Students

We have proposed a number of ways in which schools might adapt their practices in order to meet a commitment to teach all children to read regardless of their entering level of skill or motivation. Some of the changes proposed involve deep and extensive modifications in teachers' attitudes and day-to-day conduct with children. At least in the public schools, it is not always possible to select teachers with the most favorable attitudes and teaching skills for working with disadvantaged children. It is important, therefore, to consider what kinds of staff development practices within the schools themselves might bring about and maintain

the kinds of behavior toward children that are needed. Since the changes required on the part of teachers will require much energy on their part, and since the ultimate payoff for these changes (i.e., literate children) may be some time in coming, administrators seeking to develop new teaching practices in their schools will need to develop and support considerable perseverance on the part of teachers at this difficult task. Administrators will, in other words, need to deal with the problem of motivating teachers to teach.

Standard supervisory practices in public schools offer little support to teachers working with lower class and minority group children. The principal is rarely seen, except when the class is disruptive, and for an annual or biannual rating of the teacher. A supervisor who travels from school to school may visit a few times a year to observe and, again, rate the teacher's performance. In general, a teacher receives external reinforcement (good ratings and promotions) largely on the basis of the external (i.e., nondisruptive) behavior of the children rather than their learning. The children's achievement levels are expected to be low anyway. The unusual teacher who does not accept these low expectations finds little encouragement. Most such teachers either leave the system or succumb to its low expectations. It is easier to blame the child for being unable to learn than to continue to blame oneself for being unable to teach.

While this picture is bleak, we do not believe it is hopeless. We think is may be possible to apply some of the same principles of motivation developed earlier in this paper to shaping and maintaining teachers' perseverance at the difficult but rewarding task of teaching disadvantaged children in an adaptive educational system. In this final section of the paper, therefore, we shall briefly discuss the implications of our analysis of motivation for the training and support of teachers in urban schools.

Aspiration. We begin with a proposition concerning aspiration--aspiration to teach. We think it is reasonable to assume that teachers want to succeed in the classroom, and that the definition of success adopted by teachers will, in the long run, be determined by the professional/social environment in which they find themselves. Thus, a school that is seeking to make a major impact on the problem of functional illiteracy must begin by establishing a "culture" in which it is made clear to teachers at the outset that their success in the classroom will be measured by their ability to invoke learning in children, particularly in children who are not normally expected to learn. Through group meetings, individual conferences, and public commitments, the school must seek to establish in each teacher a frame of mind in which his or her aspirations as a teacher will only be satisfied if there is success in teaching all of the children, including the "unteachable."

Expectation. If aspiration to teach is high, the problem becomes one of expectation--expectation of the children's ability to learn and of one's own ability to teach. Teachers' expectations, like children's and parents', can probably best be changed by the experience and recognition of success. This means that teachers must be provided with models of successful teaching--a supervisor or other teacher who succeeds in teaching a child considered "unteachable." It means, further, that teachers must be provided with the technical skills and the instructional materials needed to facilitate children's learning. They must be educated in methods of diagnosing specific learning needs and in providing the varied approaches to learning that result in frequent success for both child and teacher. Further, they must have means of making their successes visible to themselves and their supervisors as well as to the children and parents. Thus, many of the techniques suggested earlier for enhancing children's motivation for learning can be viewed also as a means of enhancing teachers' motivation for teaching.

External and Internal Reinforcement. During initial periods of a teacher's work, generous use of external social reinforcers can help to sustain motivation. Probably most important in this regard is the recognition and responsiveness of supervisors and other teachers to small successes in teaching and learning. Other forms of social reinforcement might include the opportunity to talk with visitors to the school or to represent the school on visits to other schools. Staff meetings, formal or informal, can also become occasions for mutual social support. All of this can help to establish an environment in which intrinsic reinforcement from success in teaching can continue to build. Just as children are reinforced by visible evidence of their increasing mastery, so teachers can be reinforced by evidence that children are progressing. Thus, in addition to serving as the basis for planning a child's program, individual records on children can serve to make visible to teachers their own success in teaching. Regular supervisory conferences that focus on children's learning rather than on the external aspects of teacher behavior can do much to change the supervisory relationship from an evaluative to a colleaguial one, in which supervisor and teacher are mutually reinforced by successful teaching and learning.

What we are advocating, to state the case as generally as possible, is the use of the teaching experience itself as a means of changing teacher attitudes, rather than the more conventional approach that treats changed attitudes as a prerequisite to effective teaching in difficult settings. We have outlined, very briefly, a set of principles for staff development that has guided our initial work in developing an adaptive educational program in the context of an urban public school. The principles have been stressed rather than the specific practices used in our school, because we are not prepared to offer a detailed prescription for school organization or supervisory practice on the basis of this experience alone. There

is much yet to be learned both about how to train teachers in the technical skills that are needed to succeed in their work, and about how to establish and support the attitudes toward children and toward their families that will make teaching effective and humane. What we would like to stress, however, is the necessity of paying at least as much attention to methods of motivating and training a teaching staff as to methods of teaching children. This concern for staff development is particularly crucial where students' level of motivation for learning is initially low, since it is only through appropriate social design of the school that perseverance at learning can be developed. Instructional methods and materials may be improved immensely. However, we see no substitute for the teacher as a person who establishes the expectation and provides the reward for initial learning, and by so doing sets the conditions under which learning can eventually be motivated largely by the expectation of continuing success.

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